

Adams19 Cas9-KO Strategy

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Project Overview

Project Name

Adamts19

Project type

Cas9-KO

Strain background

C57BL/6JGpt

Knockout strategy

This model will use CRISPR/Cas9 technology to edit the *Adamts19* gene. The schematic diagram is as follows:



- The *Adamts19* gene has 4 transcripts. According to the structure of *Adamts19* gene, exon3 of *Adamts19-201* (ENSMUST00000052907.6) transcript is recommended as the knockout region. The region contains 166bp coding sequence. Knock out the region will result in disruption of protein function.
- In this project we use CRISPR/Cas9 technology to modify *Adamts19* gene. The brief process is as follows: CRISPR/Cas9 sys

- The *Adamts19* gene is located on the Chr18. If the knockout mice are crossed with other mice strains to obtain double gene positive homozygous mouse offspring, please avoid the two genes on the same chromosome.
- This strategy is designed based on genetic information in existing databases. Due to the complexity of biological processes, all risk of the gene knockout on gene transcription, RNA splicing and protein translation cannot be predicted at the existing technology level.

Gene information (NCBI)

Adamts19 a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 19 [Mus musculus (house mouse)]

Gene ID: 240322, updated on 13-Mar-2020

Summary



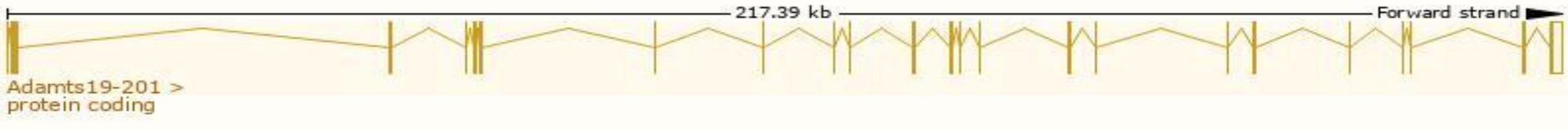
Official Symbol	Adamts19 provided by MGI
Official Full Name	a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 19 provided by MGI
Primary source	MGI:MGI:2442875
See related	Ensembl:ENSMUSG00000053441
Gene type	protein coding
RefSeq status	REVIEWED
Organism	Mus musculus
Lineage	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Euarchontoglires; Glires; Rodentia; Myomorpha; Muroidea; Muridae; Murinae; Mus; Mus
Also known as	4831407I23Rik, AU015154, D230034E10Rik
Summary	This gene encodes a member of "a disintegrin and metalloproteinase with thrombospondin motifs" (ADAMTS) family of multi-domain matrix-associated metalloendopeptidases that have diverse roles in tissue morphogenesis and pathophysiological remodeling, in inflammation and in vascular biology. This gene is predominantly expressed in the ovary with lower levels of expression observed in kidney, heart, skeletal muscle, lung and testis. The encoded preproprotein undergoes proteolytic processing to generate an active protease. [provided by RefSeq, Jul 2016]
Expression	Biased expression in ovary adult (RPKM 2.6), limb E14.5 (RPKM 2.4) and 13 other tissues See more
Orthologs	human all

Transcript information (Ensembl)

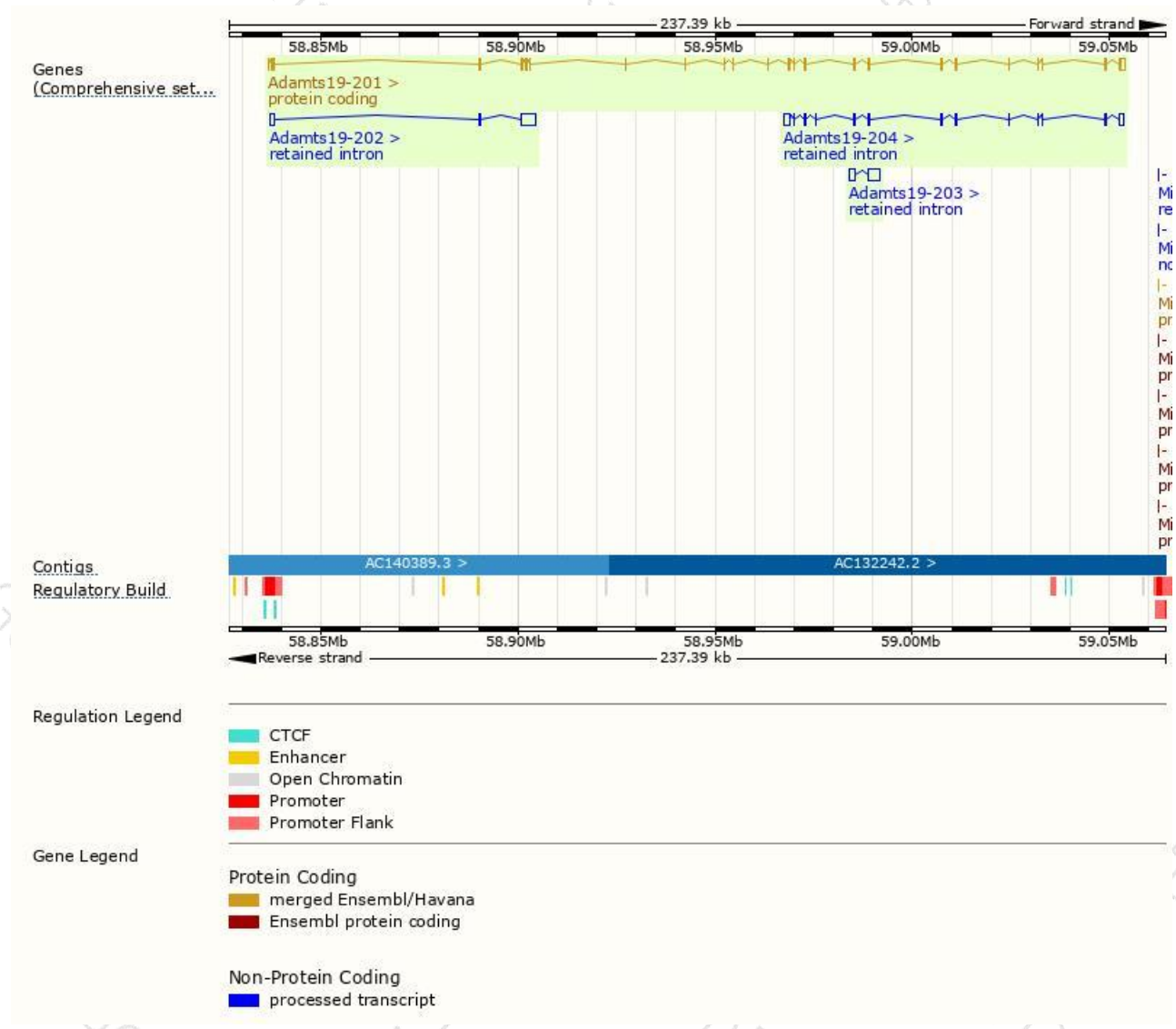
The gene has 4 transcripts,all transcripts are shown below:

Name	Transcript ID	bp	Protein	Biotype	CCDS	UniProt	Flags
Adamts19-201	ENSMUST00000052907.6	5145	1210aa	Protein coding	CCDS29266	P59509	TSL:1 GENCODE basic APPRIS P1
Adamts19-202	ENSMUST00000236901.1	4489	No protein	Retained intron	-	-	
Adamts19-203	ENSMUST00000237536.1	4390	No protein	Retained intron	-	-	
Adamts19-204	ENSMUST00000237964.1	4124	No protein	Retained intron	-	-	

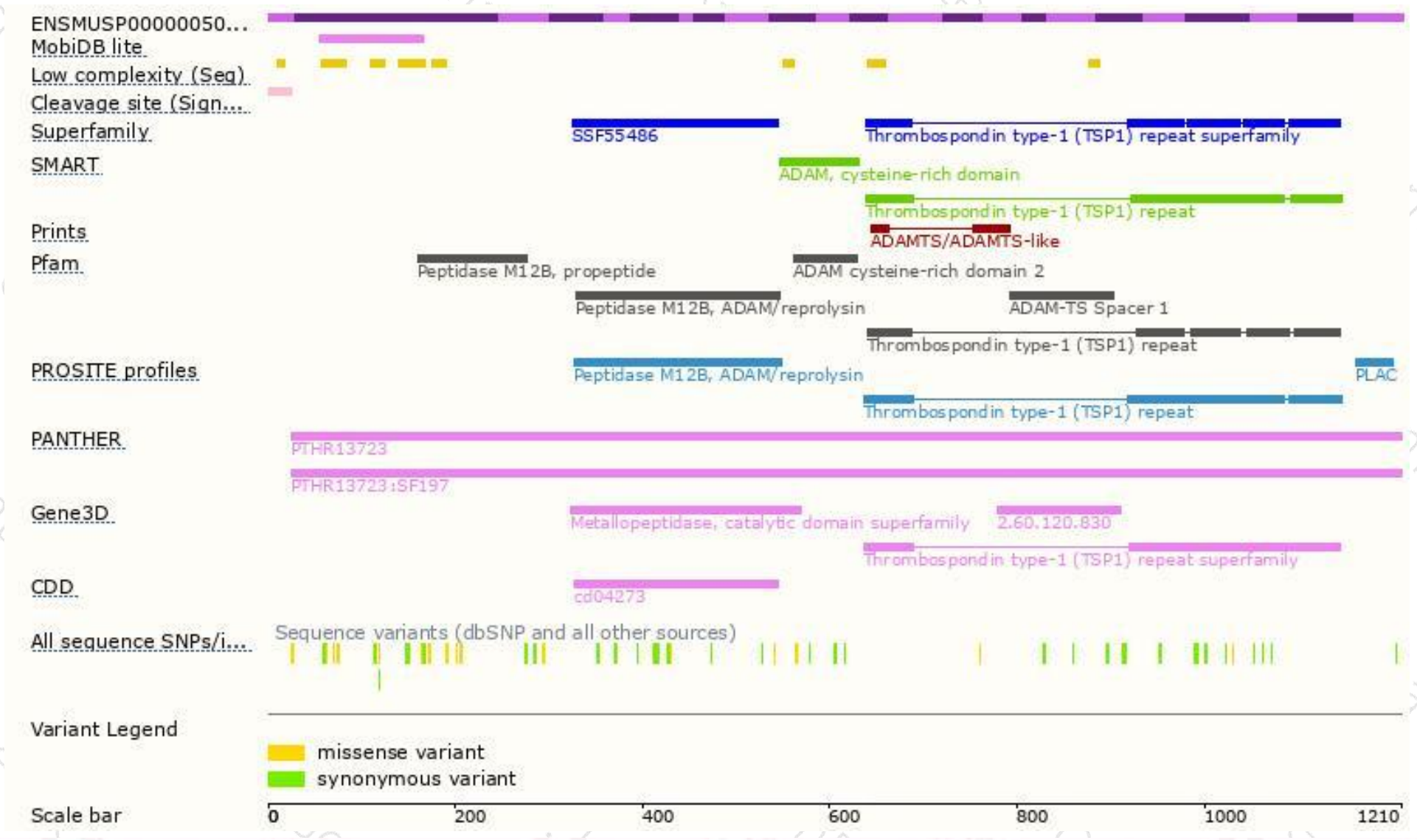
The strategy is based on the design of *Adamts19-201* transcript,the transcription is shown below:



Genomic location distribution



Protein domain



If you have any questions, you are welcome to inquire.

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